

Abstract of the Disclosure

5 This application relates to a fuel dispensing system and method for safely  
regulating transfer of fuel between a fuel dispenser and a fuel recipient.  
The fuel dispensing system may be used, for example, to replenish electric  
vehicles that use refillable electro-chemical power generation systems,  
such as fuel cell hybrid systems using hydrogen fuel. The system employs  
10 a combination of interlocks and other safety features specifically adapted  
for high-risk indoor environments. Fueling cannot commence until the  
dispenser and the recipient are electrically bonded to minimize the risk of  
spark generation. The system may include, for example, a fuel supply  
subsystem for preventing fuel flow except during a fueling session, an  
15 immobilization subsystem for preventing relative movement of the  
dispenser and the recipient during a fueling session, a communication  
subsystem for enabling data exchange between the dispenser and the  
recipient, and a leak detection subsystem for monitoring the fueling site  
for fuel leaks. In order to minimize or negate the risk that hazardous  
and/or flammable products could be exposed to the atmosphere during  
20 a fueling session, the system ensures that fueling cannot commence until  
multiple safety criteria are satisfied.